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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,629	08/05/2003	Michael A. Siracki	05516.142002	7203

7590 06/28/2005

ROSENTHAL & OSHA L.L.P.
Suite 2800
1221 McKinney Street
Houston, TX 77010

EXAMINER

THOMPSON, KENNETH L

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,629

Applicant(s)

SIRACKI, MICHAEL A.

Examiner

Kenneth Thompson

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 5-7, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drake, U.S. 4,495,067 in view of Drake, U.S. 4,372,404.

Regarding claims 1, 10, 13 and 15, Drake (067) discloses attaching cutting elements (21) to a surface of a cone (15); and depositing a hard facing layer of hard metal (col. 5, lines 17-27) at the time of forming the cutting element (col. 5, lines 27-32) the cutting elements prior to the attaching (col. 7, lines 1-19). Drake (404) teaches use of a steel cutter (col. 8, lines 16-22) to provide an cutter having a portion capable of being bonded to the steel cone. It would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the cutters disclosed by Drake to be formed of steel; as taught by Drake to provide a hard faced preformed cutter capable of being welded to the steel cone, free of mechanical interconnection.

As to claim 2, Drake (067) discloses attaching comprises friction welding (col. 7, lines 20-25).

As to claims 3 and 9, Drake (404) teaches use of automatically depositing the hardfacing layer (A) by sintering (col. 5, lines 19-25).

As to claim 4, Drake (404) discloses the hardfacing layer (28) comprises sintered tungsten carbide (col. 2, lines 52-55).

As to claim 8, Drake discloses at least one tooth (21) comprises a gage tooth (21 at base of cone near 7).

As to claim 14, Drake (404) teaches use a parent metal substrate (steel alloy; col. 8, lines 17-22) and wherein the hardfacing layer comprises a hard metal composition (tungsten carbide).

Allowable Subject Matter

Claims 5-7, 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest all the claimed subject matter including the hard facing layer having a thickness between 0.030 inch and 0.180 inch.

The prior art of record does not disclose or suggest all the claimed subject matter including the hard facing layer having a thickness dependent on properties of formation to be drilled by the tooth rock bit.

The prior art of record does not disclose or suggest all the claimed subject matter including applying the hard facing layer to a leading face of the at least one tooth.

The prior art of record does not disclose or suggest all the claimed subject matter including different hard facing layers on cutting elements.

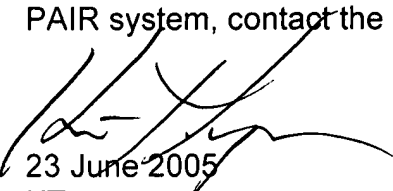
The prior art of record does not disclose or suggest all the claimed subject matter including differently applied hard facing layers on the cutting elements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Thompson whose telephone number is 571 272-7037. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



23 June 2005
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